

**RULES
OF
TENNESSEE STATE OIL AND GAS BOARD
STATEWIDE ORDER NO. 2
DRILLING, RE-ENTRY, PLUGGING
AND ABANDONING EXPLORATORY
AND EXPLOITATION OIL AND GAS WELLS**

**CHAPTER 1040-2-9
WELL ABANDONMENT**

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1040-2-9-.01 PLUGGING WELLS

- (1) All wells which are to be abandoned shall be filled with a mud fluid of sufficient weight to offset the hydrostatic pressure of any formation penetrated. Sufficient cement plugs must be efficiently placed in number and properly located as to prevent the commingling of oil, gas, salt water, and fresh water from one zone to another, and to isolate potentially minable coal beds and seams and other potentially extractable minerals. All downhole plugs must be "felt for" to insure that they have been properly placed.
- (2) The specific method and procedure for plugging a well shall be as follows:
 - (a) A mechanical plug, or a brush and stone plug, and a neat cement plug of not less than twenty-five (25) feet in length shall be placed between each producing formation, whenever possible.
 - (b) A mechanical plug, or a brush and stone plug, and a neat cement plug of not less than twenty-five (25) feet in length shall be placed at the base of the surface casing. The plug shall be placed so that at least ten (10) feet of cement extends up into the casing.
 - (c) A mechanical plug, or a brush and stone plug, and a neat cement plug of not less than twenty-five (25) feet shall be placed at the surface of the well, with the top of the surface casing being cut off below plow depth whenever appropriate.
 - (d) In a well with casing that does not seal off the ground water, a mechanical plug, or a brush and stone plug, and a neat cement plug must be set fifty (50) feet below the deepest known ground water strata. The cement plug must be adequate in length to reach at least ten (10) feet in to the casing.
 - (e) In an uncased well, a mechanical plug, or a brush and stone plug, and a neat cement plug must be set at least fifty (50) feet below the deepest ground water strata and extend up to the surface or just below plow depth if appropriate.
 - (f) The mechanical or brush and stone plug method maybe replaced by filling the well from total depth to the surface with cement, provided, however, that such method must be either prescribed or approved by the Supervisor.
 - (g) If there is fluid in the well, a dump bailer may be used to place the cement in the well.

(Rule 1040-2-9-.01, continued)

- (h) If drilling mud or water are present in the well, they may be used as a filler between cement plugs.
- (3) Any other methods not defined above, but approved by the Supervisor, may be used.

Authority: T.C.A. §§60-1-202 and 60-1-204. **Administrative History:** Original rule was certified May 24, 1974. Amendment filed April 20, 1988; effective June 4, 1988.

1040-2-9-.02 INSPECTION The Supervisor or his representative must be given notice of intent to plug a well at least 12 hours prior to conducting such operation. The Supervisor or his representative will inspect the work of abandonment as it progresses. check the location and quality of plugs, check the mount of casing pulled, check the demonstration of movement, if any, of oil, gas, or water. The operator must submit a Plug and Abandon Report (Form R-P & A-1) covering the work performed to the Supervisor within thirty (30) days after plugging and abandoning the well. This work must be observed by the Supervisor or his representative and that observance verified by his signature on the Plug and Abandon Report (Form R-P & A-1).

Authority: T.C.A. §§60-1-202 and 60-1-204. **Administrative History:** Original rule was certified May 24, 1974. Amendment filed June 29, 1982; effective August 13, 1982. Amendment filed February 1, 1986; effective March 9, 1986. Amendment filed April 20, 1988; effective June 4, 1988.

1040-2-9-.03 DELIVERABILITY TEST Before any well will be classified as a shut-in gas well, the operator must furnish the results of a deliverability test. Such deliverability test shall be performed after the well has achieved a stabilized flow rate. If stabilization cannot be achieved, the maximum test period required is forty eight (48) hours. The results of the deliverability test shall be submitted on Gas Well Deliverability Tests (Form R-DT- 1), and in the initial Production section of the Well History, Work Summary, and Completion or Recompletion Report (Form R-WH-1), and must complete as to stabilized flow rate, hours tested, choke size, and pressure in order to demonstrate that a stabilized flow rate was achieved, a copy of the chart on which the deliverability is based must also be submitted.

Authority: T.C.A. §§60-1-202 and 60-1-204. **Administrative History:** Original rule was certified May 24 1974. Amendment filed June 29, 1982; effective August 13, 1982. Amendment filed February 1, 1986; effective March 9, 1986. Amendment filed April 20, 1988; effective June 4, 1988.

1040-2-9-.04 TIME LIMIT FOR PLUGGING WELLS All wells drilled for oil and gas and found to be dry shall be plugged within six (6) months from cessation of drilling. Upon written request to the Supervisor showing good cause, an extension of up to ninety (90) days additional may be granted. No operator or owner shall permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted. Nothing herein shall prevent utilizing a well for the purpose of introducing air, gas, fresh water or other liquid pressure into or upon the producing strata for the purpose of recovering oil and gas. All wells which are neither producing nor plugged shall be cased and capped in such a manner so as to protect all potential oil and/or gas zones, and fresh water.

Authority: T.C.A. §§60-1-202. **Administrative History:** Original rule was certified May 24, 1975. Amendment filed June 6, 1975; effective July 5, 1975.

1040-2-9-.05 SURFACE RECLAMATION

- (1) Abandonment of well sites, oil or gas pipeline right-of-way, storage facility sites, and access roads.

(Rule 1040-2-9-.05, continued)

- (a) Except for active work areas, the operator shall drain and fill all surface pits that are not needed for production purposes, and shall grade and stabilize the well location and location road within thirty (30) days of the initial disturbance, in order to minimize surface run-off and prevent excessive erosion and sedimentation. All drilling supplies and equipment, trash, discarded materials and other refuse not contained and covered in the reclaimed pits shall be removed from the site. Temporary vegetative cover shall then be established on all graded areas.
 - (b) Within thirty (30) days of the plugging and abandonment of any well, the operator shall remove all production and storage structure, supplies and equipment, any oil, salt water and debris, fill any remaining excavations, and grade any remaining disturbed areas, including access roads. Permanent vegetative cover shall then be established on all disturbed areas, excluding approved permanent, non-erosive facilities, and access roads which are to be turned over to the landowner. Any access roads necessary for the operator to gain access to the well site in order to determine the adequacy of the vegetative cover or to perform additional revegetation may continue to be used by the operator until all of the Boards reclamation requirements have been met.
 - (c) Upon written request to the Supervisor showing good cause, an extension of up to ninety (90) days additional maybe granted to an operator to complete grading and/or vegetation of a well site or access roads.
- (2) Revegetation - General Requirements
- (a) The operator shall establish, in accordance with 1040-2-9-.05(1), on all surface disturbed areas except water areas and surface areas of access roads approved by the Supervisor as permanent roads, a vegetative cover that is in accordance with the approval permit and reclamation plan and that is as follows:
 - 1. Diverse, effective, and permanent;
 - 2. Comprised of species approved by the Supervisor that will not impede natural vegetative cover, and
 - 3. Capable of long term stabilization of the soil surface from erosion.
 - (b) The reclamation plant species shall have the following:
 - 1. The same seasonal characteristics of growth as the original vegetation;
 - 2. Be capable of self-regeneration;
 - 3. Be compatible with existing plant and animal species existing in the areas; and
 - 4. Meet the requirements of applicable State and Federal seed, poisonous and noxious plant, and introduced species laws or regulations.
 - (c) Suggested seeding mixtures, rates, and dates are shown in the following table:

(Rule 1040-2-9-.05, continued)

Seeding Group	Rate-Pounds Per Acre	Rate-Pounds Per 1,000 Square Feet	Seeding Dates
For Temporary Cover:			
cereal wheat or rye (100%)	20-25	.5-.6	10/15-11/30
sudan grass hybrid (100%)	20	5	04/15-08/15
For Permanent Cover			
tall fescue (100%)	30	.7	02/15-04/15 08/15-10/15
tall fescue (90%)	30	.7	02/15-04/15
white (ladino) clover (10%)	3	.1	08/15-10/15
tall fescue (86%)	30	.7	02/15-04/15
crownvetch (14%)	5	.1	08/15-10/15
sericea lespedeza (scarified) (60%)	30	.7	03/01-04/15
tall fescue (30%)	15	.3	03/01-04/15
annual lespedeza (10%)	5	.1	03/01-04/15
sericea lespedeza (79%)	30	.7	03/01-04/15
weeping lovegrass (8%)	3	.1	03/01-04/15
annual lespedeza (13%)	5	.1	03/01-04/15

1. Seeding rate should be increased by 20 percent on sites where a seedbed cannot be prepared.
2. Temporary cover should be disked or mowed before permanent vegetation is established.
3. Where more than 90 percent of a mixture is composed of tall fescue, annual fertilizing should be done to maintain an adequate cover.
4. Crownvetch may be used in Middle and East Tennessee and the northern half of West Tennessee, but should not be used on areas that will receive heavy traffic.
5. Sericea lespedeza and weeping lovegrass are both suitable for sites that are subject to drought.
6. Disturbed areas on which temporary cover must be established between December 1 and February 15 should be mulched, and then seeded with permanent vegetation as soon as possible.

(Rule 1040-2-9-.05, continued)

- (d) The Supervisor may grant exceptions to the requirements of paragraphs (b) 1. and 2. of this section when the species are necessary to establish a quick-growing, temporary, stabilizing cover, and measures to establish permanent vegetation are included in the approved reclamation plan.
- (3) Revegetation - Top soiling, Mulching and Soil Amendments
 - (a) Prior to the establishment of a permanent vegetative cover on disturbed areas where excavation activities have occurred, the operator shall replace the excavated topsoil or provide an approved topsoil substitute material suitable for supporting the long range revegetation goals.
 - (b) Suitable mulch and/or other soil stabilizing practice shall be used on all areas that have been regraded and covered by topsoil or topsoil substitutes unless the Supervisor waives this requirement based on a determination that seasonal, soil, or slope factors result in a condition whereby mulch or other stabilizing practices are not necessary to control erosion and to promptly establish an effective vegetative cover.
 - (c) Nutrients and soil amendments shall be applied to the redistributed growth medium prior to revegetation when necessary to establish and maintain the vegetative cover.
- (4) Revegetation - Standards for Success
 - (a) All previously disturbed and reclaimed areas shall be inspected by the Supervisor or his designee prior to final reclamation bond release in order to determine the level of success of permanent revegetation.
 - (b) Revegetation success shall not be determined until after at least two successfully completed spring or summer growing seasons have occurred.
 - (c) Standards for success shall be based on a ground cover of at least ninety percent (90%) consisting of herbaceous and/or woody species with a minimum of eighty percent (80%) being of perennial varieties.

Authority: T.C.A. §§60-1-202 and 60-1-204. **Administrative History:** Original rule filed April 20, 1988; effective June 4, 1988.